

No. 21,068

United States Court of Appeals
For the Ninth Circuit

ILLINOIS TOOL WORKS, INC.,	} <i>Appellant,</i>
VS.	
REX L. BRUNSING, et al.,	

BRIEF FOR APPELLEES

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JURISDICTION

Jurisdiction of the U.S. District Court, Northern District of California, Southern Division is based on U.S.C., Title 28, § 1338(a) because this action arises under the patent laws of the United States. The Jurisdiction of this Court is based on U.S.C., Title 28, § 1291 because appellant's appeal is being taken from a final decision of the District Court. The notice of Appeal was timely filed as set forth in appellant's brief.

STATEMENT OF CASE

Appellee controverts the appellant's statement of the case in the following particulars:

(1) No structure contemplated by either Holmberg or Poupitch "grips" containers carried by them

(2) Holmberg contemplates various handles (PX 1, Column 3, L 43) but not other means for manually grasping the *body* to carry the containers.

(3) Containers enclosed within a Poupitch structure may be freely removed without the necessity of spreading any portion of the clip apart.

(4) Appellees' device is not "like" a Holmberg or Poupitch structure. Only the purpose is the same.

(5) The resilient "tongues" of appellees' structure does not "depend" from the *body* of the clip.

(6) The margins between the tongue and rib in appellees' device define a vertical space which must open vertically in order that the rim of a can may be admitted.

(7) When a pair of cans are mounted in an interdependent set of clips, the cans do abut each other at their bottom edges but do *not* counterbalance each other in the sense that without one can of an opposed pair being present, the other will swing relatively freely depending on the movement to which the body is subjected, as it will in Holmberg or Poupitch.

SUMMARY OF ARGUMENT

There is ample evidence to support the findings of the District Court specified to be error and certainly none is clearly erroneous. Appellees' device is so wholly dissimilar in concept, design, appearance, means, operation and so substantially different in result from any structure contemplated by Holmberg or Poupitch that the only reason for applying the

doctrine of equivalence would be to defeat appellant's claims.

If held to be applicable, the range of equivalence should be extremely narrow as appellant's patents in suit were small improvements in a crowded field, never obtained commercial acceptance and are further limited by the doctrine of file wrapper estoppel.

**APPELLEES HAVE NOT INFRINGED THE HOLMBERG
OR POUPITCH PATENT.**

In appellant's "Statement of the Case," the words "grip" or "gripping" or "grips" appear some five times.

Neither of plaintiff's patents in suit uses the word "grip". In fact, both are titled and rightly so, as "container carrier". The District Court specifically found "... this last is necessary because the structure of the carrier does not grip or hold the chimes or rims of the containers or cans in the sense of applying any gripping pressure to the chimes or rims. . . ." (Findings of Fact XIII, C.T. 278.) Describing the Holmberg structure and "... the carrying operation is achieved in the same manner as Holmberg in that the cans are supported and carried, but not held or gripped together by any positive action of the carrier. . . ." (Findings of Fact XXII, 5 C.T. 285), describing Pouptich structure. In contrast describing appellees' device, the court found "... thus creating a positive gripping action which securely holds the can in the clip regardless of any position in which the clip is

“What constitutes equivalency must be determined against the context of the patent, the prior art, and the particular circumstances of the case. Equivalence, in the patent law, is not the prisoner of a formula and is not an absolute to be considered in a vacuum. It does not require complete identity for every purpose and in every respect. In determining equivalence, things equal to the same thing may not be equal to each other and, by the same token, things for most purposes different may sometimes be equivalent. Consideration must be given to the purpose for which an ingredient is used in a patent, the qualities it has when combined with the other ingredients, and the function which it is intended to perform. An important factor is where the person reasonably skilled in the art would have known of the interchangeability of an ingredient not contained in the patent with one that was.

A finding of equivalence is a determination of fact. Proof can be made in any form: Through testimony of experts or others versed in the technology; by documents, including text and treatise, and, of course, by the disclosures of the art. Like any other issue of fact, final determination requires a balancing of credibility, persuasiveness and weight of evidence. *It is to be decided by the trial court and that court's decision, under general principles of appellate review, should not be disturbed unless clearly erroneous. Particularly is this so in a field where so much depends upon familiarity with specific scientific problems and principles not usually contained in the general storehouse of knowledge and experience.*” (Emphasis added.)

After briefly reviewing the two welding fluxes involved, the Court went on to say with regard to how the evidence would be weighed as follows (339 U.S. at page 611):

“It is not for this Court to even essay an independent evaluation of this evidence. This is the function of the trial court. And, as we have heretofore observed, ‘to no type of case is this . . . more appropriately applicable than to the one before us where the evidence is largely the testimony of experts as to which a trial court may be enlightened by scientific demonstrations.’”

The above quoted language is especially applicable in this case where most of appellant's case was introduced through the testimony of the witness Poupitch. Mr. Poupitch had the classical reasons to be prejudiced and these were brought out immediately on his cross-examination. (R.T. 105-107.) He has been an employee of the appellant for thirty-three years. He owns stock in the appellant corporation. He receives bonuses which in part are dependent upon profits and he admitted that he had a personal interest in the outcome of this litigation. Additionally, he had the pride of authorship if the Poupitch patent 2,923,406, which is the second of appellant's patents in suit. Considering that appellant brought a patent attorney (Mr. Richard Trexler) and Mr. Boret, its vice president, to San Francisco on separate occasions for the depositions held here, for the pretrial conference, and for the trial, it would seem that appellant expended a substantial amount of funds for trial prepa-

ration and trial. We naturally wonder whether or not it was impossible for appellant to find, if it tried, an independent expert to give the same conclusions under oath as did Mr. Poupitch.

It is submitted, therefore, that a substantial issue of credibility was presented at the trial and that the conflicts of testimony were resolved in favor of appellees.

THE U SHAPE IS ESSENTIAL FOR HOLMBERG AND POUPITCH.

Of the eleven claims of Holmberg involved in this litigation, seven (1, 2, 5, 7, 8, 9 and 10) call for "... a body having a U shaped cross section . . ." Appellant contends that the appellees' device does in fact have a U shape in cross section in spite of the trial Court's specific finding to the contrary and without citing any reference to the transcript in support of its position.

Appellees contend that this issue could have been resolved by the District Court without any oral testimony whatsoever merely by viewing the drawings and exhibits and drawing its own conclusions. The oral testimony was by Mr. Poupitch in support of appellant's position and by Mr. Wood in support of appellees'. Mr. Wood gave specific cogent reasons for his opinions (RT 439-445) and it is obvious that this is just one of the conflicts between Mr. Wood's testimony and that of Mr. Poupitch which was resolved by the Court in appellees' favor.

However, Mr. Poupitch conceded that he himself had to disregard a portion of the appellees' structure to see a U shape. (RT 172, 173.)

Q. Now, if you cut that rim engaging means and cross-section, would it also be your testimony it has a U shape?

A. Yes.

Q. Isn't it true that your opinion that the Brunsing device has a U shaped cross-section is based on (1) cutting the can engaging means through and looking at the end and disregarding the rest of the body?

A. That's right.

Finally, it should be noted that this particular language in the seven claims calls for, ". . . a body having a U shaped cross-section" and *not* a cross-sectional view of the body taken through the openings, slots, or rim engaging means. For a fair and proper comparison the body of appellees' device should be looked at from an end position or a cross-sectional view at some place other than through the can engaging elements. If this were done *not* even Mr. Poupitch would find a U shaped structure as above noted.

The difference in function between the Holmberg structure that resembles a U in cross-section and appellees' device which does not, is marked, and is the heart of this case.

In Holmberg and Poupitch it is necessary that the legs of the U (inverted) be nearly vertical so that the cans when supported by the carrier are nearly vertical. And why a handle associated with the carrier

must be freely moveable. In essence the whole structure must be constructed so that at all times the cans, when supported by the carrier, are in a vertical or nearly vertical position. If they are not, the cans will fall out of a Holmberg or Poupitch structure when the cans reach an intermediate angle to the carrier.

This was demonstrated to the Court. (RT 162.) Appellees' device, of course, firmly grips each can independent of any other can so that the can or cans are firmly retained in appellees' device no matter in what position the device is held. Since appellees' device was designed to firmly grip the cans it, of necessity, looks different, has different means, has different operation, and a different result than the Holmberg and Poupitch carriers which are merely designed to allow one or more cans to "hang on" or be supported or carried loosely by the structures contemplated by the patents. In this instance we think that the form shown in the patent is *necessary to the functions which the patent ascribes to the invention and thus the patent should be limited to the form shown*. (3, Walker on Patents, Deller's Edition (1937) Section 1685, 1964 Supp. p. 60.) In Holmberg's patent specifications great emphasis is placed on the manner of forming the slots. (PX 3, Col. 2 and lines 22-51.)

Poupitch has the same slots although he calls them "throats".

It is the described construction of these slots which restricts the claims to horizontal slots that open vertically and allow free ingress and egress when the cans are at an intermediate angle that shows why there

is no grasping and why the body must be maintained in a vertical or almost vertical position for the carrier to effectively transport cans.

A freely pivotal handle member is also essential for Holmberg and Poupitch for the simple reason that if *any type of a handle is rigidly affixed* to a Holmberg or Poupitch structure, the structure might easily be tipped to an intermediate angle and then all the cans on the downward side would fall out. (RT 162.) The handle member is called for in Claims 4, 11 and 12. Claim 13 calls only for "adapted for manually grasping for carrying the body. . . ." But this must be considered to mean a freely pivotal handle. It is the formation of the slots, the vertical legs of the U that do not diverge and the cooperating freely moving pivotal handle in Holmberg that attempt to insure that the cans remain at a vertical position. (RT 451.) If, in fact, Holmberg or Poupitch gripped a container when a container is carried by a Holmberg or Poupitch structure, there would be no need for a U shaped structure or a cooperating handle member that attempts to insure that the structure will remain vertical or nearly so. We think it is beyond cavil that the Court fully understood this difference in function.

Succinctly stated the patentable novelty in Holmberg as claimed by him (DXV, pp. 32-33) is,

"the character of the holding devices and their spacing so that the cans are held by the upper rim and the downward swinging action brings about an abutment at the bottom edge of the can is included in the claim and thus defines the essence of novelty of the invention."

The lack of any affirmative gripping action under Holmberg is well demonstrated by a specific language of claim one, “. . . the portions below said slots being curved to conform to the contour of the side walls of the containers . . .”. This language contemplates a structure to give added stability to containers which, of course would not be necessary if, the “slot” actually affirmatively gripped the containers. In spite of appellant’s argument to the contrary found on pages 16-17 of its brief, it is submitted that a visual observation of appellees’ device obviously compelled the District Court to conclude simply that appellees’ device “does not have any structure whatever below the vertical openings created by the space between the arcuate tongue and the arcuate central rib”. (Appellees’ device inserted opposite.)

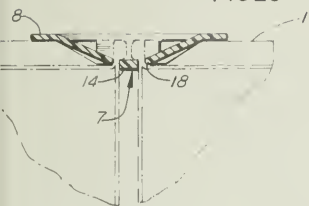
The arcuate central rib, the opposed resilient arcuate tongue and the underside of the coplainer body portion cooperating together produce in the appellees’ device the affirmative gripping action that is nowhere found in Poupitch and Holmberg.

As appellees conceive it the basic issue in any infringement action is whether or not the accused device seeks to “steal(ing) the benefit of the invention”. L. Hand in *Royal Typewriter Co. v. Remington Rand* as cited in *Graver v. Lindy*, 339 U.S. 605 at 608.

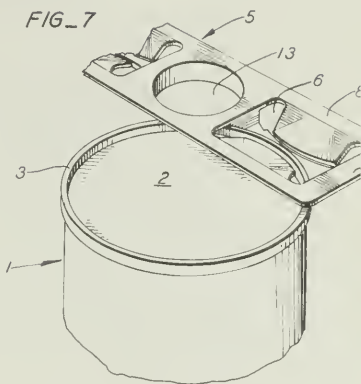
Where, as here, the trial Court finds that “. . . the accused device does not in any way use the idea or principle or teaching of either of plaintiff’s patents in suit, and the Court finds that the means and operation of the accused device are markedly different from those of either the plaintiff’s patents in suit . . .”

APPELJEES' DEVICE

FIG_6



FIG_7



(Finding of Fact XXII (5) CT 284) then the Doctrine of Equivalents will avail appellant nothing for the Doctrine will not be applied or if it is applied in such a case, it will be applied “. . . to restrict the claim and defeat the patentee’s action for infringement.” *Graver v. Lindy*, *supra* at 609.

THE OMISSION OF AN ELEMENT FROM A COMBINATION PATENT AVOIDS INFRINGEMENT.

The omission from an accused device of one of the elements of a combination patent avoids infringement. “A construction which omits one of the elements claimed as part of a patented combination and does not supply an equivalent, cannot be held to infringe.” *Simons v. Davidson* (9th Cir. 1939) 106 Fed. 2d 518, 3 Walker on Patents, Deller’s Ed. § 461, page 1695 and 1964 Supplement to Volume 3, page 62.

This is true for “. . . if one of the elements is omitted, the thing claimed disappears” *Vaney v. Campbell*, 1 Black (66 U.S.), 427, 430. This doctrine has been recently restated by this Court in the case of *Lockwood v. Langendorf United Bakeries, Inc.* (1963) 324 Fed. 2d 82. The issue was whether the accused metal wire basket infringed the metal wire baskets contemplated by the patent and reissue patent. Appellant suggests that several portions of this opinion are very material to this case as follows: First, after observing the *accused article* and plaintiff’s *patent model* were not similar in structural appearance, although they did accomplish the same result, the Court went on to say at page 86 “Lack of struc-

tural similarity of appearance, although not at all determinative, is a factor for consideration in determining the ultimate question of whether the accused article does in fact so copy and so use the idea, the principle, the teaching of the patent as to accomplish the same result by substantially similar or equivalent means." After holding that the same result was achieved, the Court pointed out at page 88

"Even if a claim can be read in terms upon an accused article, infringement does not necessarily follow unless it can be found as an ultimate fact that the article uses the inventor's idea as embodied in the inventor's design and drawings and that there is sameness or equivalence of function and means." (Citing cases.)

"The mere fact that the accused article performs the same function and achieves the same result as the patented article does not necessarily establish infringement unless it can be found that this is accomplished in substantially the same way and where, as in this case, the art is fairly crowded and the main elements of the patent are found or indicated in prior art, this issue should be determined narrowly rather than liberally. If in fact, not merely colorably, the accused article departs from the teaching of the patents in the means by which it achieves result there is no infringement." (Citing cases.)

"In a combination patent, such as involved in this case, every element of a particular claim is presumed essential and, therefore, every element of the claim, or its functional equivalent, must ordinarily be found in the accused article." (Citing cases.)

“Where, as in this case, no embodiments of the patent asserted by plaintiff has never been produced for commercial use, that circumstance is one calling for a narrow rather than a liberal construction of its claims.” (Citing cases.)

“Also where, as in this case, an applicant has been required to narrow his claim in order to distinguish it, any contention of the appellant that such claim is not essential or that it is infringed by an equivalent in the accused article, should be considered with care and subject to a narrow rather than a liberal construction.” (Citing cases.)

As noted it appears that the doctrine of equivalence will only be invoked when the differences are colorable, slight, or simple. Conversely, if the accused device does not use the principle of the accusing patent, the doctrine of equivalence will only be invoked to defeat the claim of infringement.

Appellant's own cases support this position. *Stewart Oxygen Co. v. Josephian* (1947) 162 Fed. 2d 857. A more complete quote commencing at 861 is as follows:

“... where the particular form is not an embodiment of the principle of the asserted invention, the patent is not restricted to the exact form of the construction shown in the diagrammatical drawing. And a device infringes it if it embodies the essential principles taught by the patent, even though there is a departure from the drawings *to the extent of simple changes which would be readily conceived and made by a mechanic in the*

course of constructing a device on the patent."
(Citing cases [emphasis supplied].)

In the *Stewart Oxygen* case the defendant had purloined plaintiff's mechanic who constructed a device similar in appearance and almost identical in operation with the patented device.

In *Chicago Pneumatic Tool Co. v. Hughes Tool Co.* (1938) 97 Fed. 2d 945, the Court held that the accused device had departed from the disclosure of the patent only to a colorable extent. The Court said specifically

"... a device infringes if it embodies the essential principles taught by the patent, even though there is a departure from the drawings to the extent of simple changes which would be readily conceived and made by a mechanic in the course of constructing a device on the patent." (At page 947.)

Here appellees contend that the reason why Holmberg and Poupitch must have an inverted U shape cross-section and why appellees' structure does not explain the basic differences in concept.

**THE ADDITION OF "SNAP ACTION" ADDS NO SUBSTANCE
TO APPELLANT'S CASE.**

By Mr. Poupitch's own testimony, his patent added only the application to the cans by "snap action". (PX 20, RT 353.)

This, however, is the only difference Mr. Poupitch so admitted. As in Holmberg cans are allowed to pass

freely in and out of his structure when the cans are at an intermediate angle to the carrier. (RT 365, lines 5-11.)

Basically, Holmberg and Poupitch use two can holding elements and only two because the structures have no affirmative gripping power designed into them. Appellees' device has three (and this is where the difference is not merely colorable but basic to the design) and must have three because its device does not merely allow the cans to hang on or in it, but affirmatively grips them. The third element in the appellees' device is the bottom of the coplainer body member which rests on the top of the cans at a substantial and equal distant point from the center of the opposition of the arcuate rib and arcuate tongues. These points define a portion of the arc of the can circle. This was brought out on cross-examination. (RT 203-208.) This third element is, of course, important in maintaining a gripping action and it becomes essential when the device is turned to the angle where the cans will drop out of Holmberg and Poupitch. At these angles it is the abutment of the bottom of the coplainer body means and the tops of the chimes of the cans together with the gripping power between tongue and central ribs that keeps the cans firmly held in the appellees device.

These great differences stated in general terms are not "mere improvements" that are colorable only but of a wholly different concept. This is so in spite of the language of Poupitch claim one which states "... and for subsequently relatively shifting said margins to-

gether for closing said throats and locking the cans and the clip in a simple relationship so that the cans cannot be thereafter removed from the clip until said margins have again been relatively shifted and spread apart." The specifications are similar (PX 3, Column 3, lines 50-56), however, it seems clear that this simply cannot be possible if the following language of the specifications is also correct. "It is to be understood that the inherent resiliency of the clip stock material or metal will cause the elements 56 and 58 to spring back to their *original positions* relative to the clip body after these elements have been resiliently flexed outwardly in the manner just described during the application of the clip to the cans." (PX 3, Col. 3, lines 44-50.) (Emphasis added.)

If this plurality of first locking means "... pending from opposite end portions of said body" "... springing back to their original positions. ..." upon completion of the application process then how can there be any grip applied to the cans?

The District Court found that the Poupitch structures have tabs with shoulders that fit in "... spaces created at opposite ends of the abutment. ..." and that at the completion of the application of the structure to the cans "... the tabs then snap back to their original positions ..." (RT 322) and "... However, as demonstrated to the Court, the cans may also be inserted as in Holmberg and removed in the same manner." (Finding of Fact 17, CT 280, RT 354, l. 24-355, l. 17, RT 504, l. 10-506, l. 15.)

This demonstration was made using plaintiff's own exemplar which Mr. Poupitch testified was made by him and which was an accurate representation of the disclosures of his own patent. (RT 86, lines 4-23.)

No part of Finding of Fact 17 has been assigned as error by appellant.

Additionally, Mr. Poupitch admitted that these elements return to their original position “. . . relative to the body” (RT 317, line 25-318, line 5) and after a good deal of sparring he admitted that there was no residual pressure maintained on the cans. Certainly none that is in any way material to the operation. (RT 318, lines 19-22.) “A. There remains a condition of dimensions. If the beads happen to be slightly larger, slightly thicker, there will be a residual pressure against the two side elements.”

In other words, by happenstance a Poupitch structure *might* apply some infinitesimal gripping action to a can, if the can rim were larger than the manufacturer's tolerance.

After a great deal of probing Mr. Poupitch finally admitted that if an appellees' resilient member does not return to its original position pressure would be applied. (RT 328, line 14-RT 329, line 6, also RT 329, line 7, line 18.)

Finally and conclusively after discussing gripping and pressure to RT 341 it was demonstrated to the Court that in appellees' device the cans literally “. . . stand on edge” when resting on a surface without any external pressure being applied to the appellees' clip

—such as Mr. Poupitch's hand (RT 341, line 14-RT 342, line 21.)

No exemplar brought to Court by appellant could or did produce any such pressure or gripping action and neither can any structure contemplated by appellant's patents.

Even if we were to concede hypothetically and only for the purposes of this brief that the Poupitch claims do provide for a structure that to some insubstantial degree grip the chimes of the cans still appellees' device could not be held to infringe. This is because the means and operation are basically different and the Courts will not apply the Doctrine of Equivalents in these instances.

This principle is fully set in *Boyden Power-Brake Co. v. Westinghouse* (1897) 18 S.Ct. 707 at 722, which itself refers to the very early case of *Burr v. Duryee*, 1 Wall. 351. The Court goes on to say at 723:

“But, after all, *even* if the patent for a machine be a pioneer, the alleged infringer must have done something more than reach the same result. He must have reached it by substantially the same or similar means, *or the rule that the function of a machine cannot be patented is of no practical value. To say that the patentee of a pioneer invention for a new mechanism is entitled to every mechanical device which produces the same result is to hold, in other language, that he is entitled to patent his function.*” (Emphasis added.)

3 Walker on Patents, Deller's Ed. 1714, 1715, 1722 and 1964 Supplement pp. 82-93.

**THE DOCTRINE OF FILE WRAPPER ESTOPPEL IS
APPLICABLE TO HOLMBERG AND POUPITCH.**

The file wrappers for patent histories of each of the patents were introduced into evidence. (DXU and DXV, RT 532.) In each various claims were amended and abandoned. The effect of amendments or abandonments is stated in *Corpus Juris Secundum* as follows,

“Where an applicant in response to rejections by the patent office amends his patent claim by cancelling the objectionable features of claims, or by introducing new elements or limitations, the claims as allowed must be interpreted with reference to those claims which have been cancelled or rejected, and the allowed claims cannot be construed to have the same meaning which they would have had without amendment.” (69 C.J.S., Patents, page 720.)

Holmberg cancelled some eight claims, three describing structure and five method, but more importantly the applicant himself stated (DXU pp. 32-33):

“The character of the holding devices and their spacing so that the cans are held by the upper rim and the downward swinging action brings about an abutment at the bottom edge of the can is included in the claim and thus *defines the essence of novelty of the invention.*”

Since it was fully shown to the District Court's satisfaction that appellees' device does not embody appellant's “essence of novelty” the total lack of infringement could be affirmed on this point alone.

In the Poupitch file wrapper (DXU p. 1) and in the Poupitch patent (PX 3) it is stated, "A further object of the present invention is to provide a novel carrier of the above described type wherein a plurality of the novel clips may be connected to a handle member formed from suitable sheet-stock, such as paper, cardboard and the like, thereby enabling a single handle structure to support a plurality of groups of adjacently positioned cans or containers." Figure 8 discloses a handle folded flat as part of an overlying cardboard structure. In addition (DXU p. 6) the applicant when discussing his drawings stated "In order to enable the clip 28 to be connected to the handle member 26, a pair of tabs or prongs . . ." In the original claims applied for, claim 14 (DXU p. 17) specifically called for ". . . a sheet material handle member".

The patent examiner rejected claim 14 (DXU p. 25) and the applicant did not amend it instead arguing for the allowance at some length. (DXU p. 31.) The examiner again rejected it at page 34 setting forth authority for his statement that no invention is shown by providing a handle for any article. In the applicant's next communication (DXU p. 36) claim 14 was cancelled.

Appellant contends that the District Court erred in applying file wrapper estoppel to the Poupitch claims on the ground that the cancelled claim (14) was "... to a different subject matter is directly contrary to this Court's decision in *Payne Furnace & Supply Co. v. Williams-Wallace Co.* (9 Cir. 1941), 117 F.2d

823, cert. den. 313 U.S. 572, where it held, page 828: ‘. . . The rejected claims were for different combinations, and as we understand it any estoppel could extend no further than to the cancelled combinations. *Johnson Co. v. Philad Co.*, 9 Cir., 96 F.2d 442, 444.’ ” Plaintiff-appellant’s opening brief at page 30.

The *Payne Furnace* case simply does not in any manner support this position. The *Payne* case dealt solely with validity because it was conceded that the patent, if valid, was infringed.

In the *Payne* case, “. . . Appellant with Stadtfeld’s work before it, has manufactured and put on the market an exact copy, and in its advertising material has proclaimed as novel the features relied on by the patentee as disclosing invention.” (*Payne Furnace & Supply Co. v. Williams-Wallace Co.*, supra at page 825.)

The case turned upon the construction of a disclaimer made after issue was joined in the lawsuit, not upon the cancellation of any claim in the Patent Office. As a matter of fact this Court said, “. . . We doubt the disclaimer was necessary, . . .” and characterized it as, “. . . innocuous gesture” (at page 828). The quote in Appellant’s brief was unnecessary to the decision and related to claims rejected by the Patent Office which did *not* include “. . . the feature of slidability of the inner pipe, and claim 8 contained neither the element of insulation nor the slidability feature.” (at page 828.)

In this case a simple comparison between the rejected claim 14 in Poupitch (DXU, page 17) and the

Poupitch claims in suit show that they most certainly are "like" claims 1 and 2, which were allowed.

Firstly, the abandoned claim 14 includes within it ("... as defined in claim 8...") the abandoned claim 8. (DXU page 14.)

The same elements are claimed for both:

1. A one piece sheet material clip;
2. A generally horizontal body for substantially traversing a space between the cans laterally of an area of substantial abutment of the cans;
3. First locking means having shoulders for engaging beneath the rims of the cans;
4. Second locking means for engaging the inner surfaces of the can rims and for cooperating with the first locking means;
5. The margins of the first and second locking means defining a throat;
6. The resilient flexible feature for spreading the throat when the clip is applied as set forth in the specifications;
7. The "snap action" feature;
8. The claimed locking feature.

Thus claim 14 which includes by definition claim 8 was for the same features as claims 1 and 2 except for the handle feature.

Mr. Poupitch tempted to draw a clip that would come under the teaching of his patent and that would hold more than two cans (RT 213-221 DXI). His

failure was total because he could not possibly design a clip for more than two cans within the disclosures of his patent, for the simple reason that no such clip for more than two cans could be formulated in view of the claim language “. . . first locking means integral with and depending from opposite end positions of said body means . . . and a plurality of second locking means integral with said body means having portions located toward opposite ends and depending from said planar body means. . .” It should be noted that the “. . . depending from opposite end portions . . .” was the third set of amendments occurring at DXU, p. 35.

Also the examiner first objected to claim 1 among others because they were vague, indefinite and functional and because it inferentially included a plurality of cans. (DXU p. 35.)

After amendments the Trexler Firm elected “. . . to prosecute claims drawn to the specifications shown in figures 1-3 pending the allowance of a generic claim in this application.” (DXU page 32.) Of course, figures 1 to 3 in the patent show only one clip which supports only two cans.

If the Poupitch structure could have a bowed body portion, as applied for in claim 4 (withdrawn by the examiner, DXU page 40), at the conclusion of the “snap action” the resilient members might not return to their original positions, and some residual pressure might be applied to the cans. Since claim 1 only calls for a planar structure and the specifications point out that at the conclusion of the snap action the members

do return to the original position, no gripping pressure can possibly be applied by the Poupitch structure.

Mr. Wood's testimony was that appellees' device simply has no structures whatever in the spaces created at opposite ends of the abutment of two cans. (RT 489-501.)

It should be noted that Finding of Fact 15 has not been cited as error.

Nor can appellant use the Doctrine of Equivalents to recapture features of claims that have been abandoned or amended and cannot ask for broad construction. 69 C.J.S. pp. 720-722 and cases there cited.

**THE PRIOR ART RESTRICTS THE CONSTRUCTION OF THE
HOLMBERG AND POUPITCH CLAIMS.**

Appellant on page 31 of its brief cites two questions and answers during Mr. Wood's direct examination and thereafter makes the bald statement that, "There was no further testimony on the prior art during the trial."

In fact, Mr. Wood commenced to testify with regard to the prior art at RT 513-A and continued to line 5 of page 522 of the Reporter's Transcript.

Mr. Wood testified briefly but clearly as to Jung, Keith, Kratzer, Selig, and Curtis as well as the testimony cited by appellant. Appellant introduced no testimony whatsoever to controvert Mr. Wood on this point and we think it is beyond argument that

it was up to the Court to determine from the testimony and from the patents what was in fact the state of the prior art.

The effect of a crowded field and only a small improvement therein in the construction to be applied to a plaintiff's claims has been stated in this circuit, *Air Devices, Inc. v. Air Factors*, 210 Fed. 2d 481 at 482. Additionally, this case reiterates that identity of results settles nothing regarding infringement and that a difference in means to accomplish the same result avoids infringement. (at 483.)

**THE LACK OF COMMERCIAL UTILITY AND ACCEPTANCE ACTS
TO RESTRICT THE CONSTRUCTION OF THE HOLMBERG
AND POUPITCH CLAIMS.**

Appellant argues commencing on page 32 of its brief that appellees have commercialized appellant's patents. This argument assumes that appellant is entitled to ignore the District Court's finding that appellees have in no way used appellant's inventions.

However, Mr. Poupitch testified (RT 127-129) that very few were made and that if any application machine had been designed or built since 1949 to the day of trial to apply the patented devices he would know about it. He did not know of any such machine. Additional support is found in Mr. Holmberg's testimony. (RT 139-140.) The testimony was clearly presented to the Court on the issue of what range of equivalents, if any, were to be accorded the claims. (RT 127, line 17-RT 128, line 9.)

Neither was Poupitch commercialized. (RT 303-304.)

Appellees submit that where the trial Court finds *both* that the patent sued on is not a pioneer patent or a marked improvement and has not been commercialized the trial Court is then justified in applying a narrow rather than a broad range of the Doctrine of Equivalents. *General Motors v. Kesling*, 164 Fed. 2d 824, Cert. Denied 333 U.S. 855, 92 L. Ed. 1135.

Smith v. Mid-Continent Inv. Co. (8 Cir. 1939) 106 F2d 622 simply does not support appellant's contention. In the *Smith* case the Court pointed out at the commencement of the Opinion (*Smith v. Mid-Continent Inv. Co.*, supra at page 624), "The accused construction and the commercial construction of plaintiff are so alike that no point is made of any differences to avoid infringement. Defendant's position is that plaintiff's commercial construction is outside the patent. Therefore, the contest is whether the patent is broad enough to cover the commercial construction. This question is one of the scope of the patent."

The plaintiff patentee had placed his thermostat for a furnace in the "breaching" of the furnace instead of in the "combustion space heated by said combustion pot", as indicated in the claims.

The Court held that locating the thermostat in the "breaching" was within the patent because it was common knowledge to those skilled in the art that such a location would be the functional equivalent of placing the thermostat in the combustion pot and hence

the patentee's commercial construction was within his patent and thus his patent was not "paper". See especially headnote (17) found at page 631 of the Opinion.

In this case, however, appellant has made no commercial construction of any kind that comes within the teachings of either Holmberg or Poupitch.

Appellees agree that "paper patents" are entitled to protection but it cannot be argued that this protection in a crowded field should be broad rather than narrow. An accused device would have to be similar in form and there would have to be identity of means, operation and result before such a device would infringe either of the patents in suit. As demonstrated to the Court, none of these elements exist.

**THE ACCUSED DEVICE LACKS ESSENTIAL ELEMENTS OF
EACH OF APPELLANT'S CLAIMS IN SUIT.**

Mr. Wood testified in detail as to the structures called for by the individual claims of both Holmberg and Poupitch. (RT 432-534.)

Obviously, the Court was impressed with Mr. Wood's testimony, the demonstrations, and the various objects of real evidence introduced by defendant.

This testimony clearly supports the Findings No. XIII, XXI, and XXII. *Lockwood v. Langendorf*, 9 Cir. 1963, 324 Fed. 2d 82.

CONCLUSION

In conclusion, the appellees' device is not an "improvement" over Holmberg and Poupitch. It is an entirely different concept of carrying a multiple number of cans independently and securely gripped by the structure itself. It does not resemble Poupitch or Holmberg. It does not have the same means. The operation is different and so is the result.

Appellees respectfully submit that the District Court should be affirmed in all particulars.

Dated, San Rafael, California,

February 3, 1967.

Respectfully submitted,

LOUIS F. HAWKINS,

HAWKINS & HAWKINS,

Attorneys for Appellees.

CERTIFICATE OF COUNSEL

I certify that, in connection with the preparation of this brief, I have examined Rules 18 and 19 of the United States Court of Appeals for the Ninth Circuit, and that, in my opinion, the foregoing brief is in full compliance with those rules.

LOUIS F. HAWKINS,

Attorney for Appellees.

(Appendix Follows)

Appendix

July 28, 1953

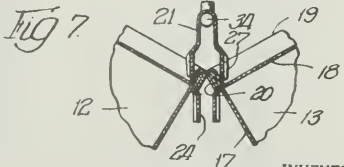
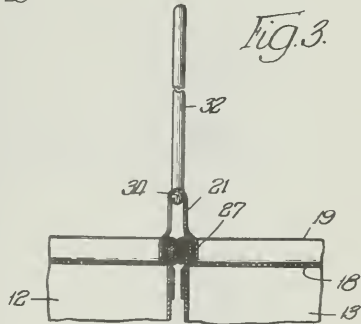
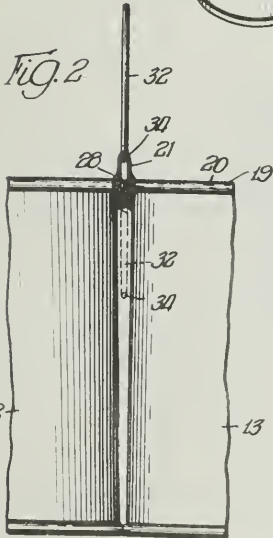
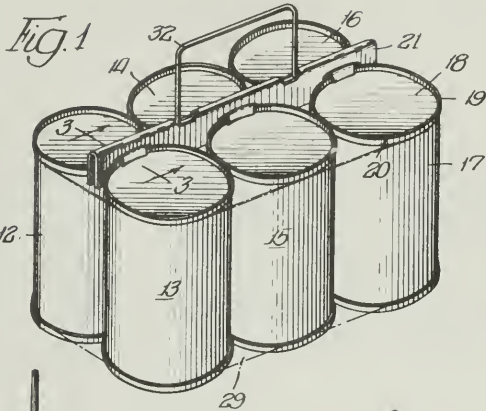
L. O. HOLMBERG

2,646,911

CONTAINER CARRIER

Filed Aug. 19, 1949

2 Sheets-Sheet 1



INVENTOR.
Lawrence O. Holmberg,
BY

Wilkinson, Huxley, Byron & Hume
ATTORNEYS

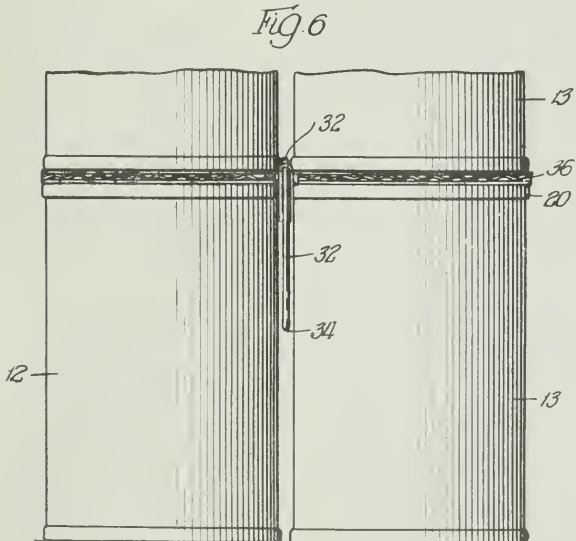
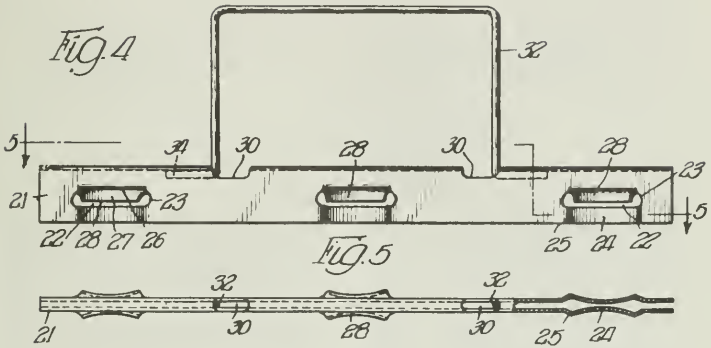
July 28, 1953

L. O. HOLMBERG
CONTAINER CARRIER

2,646,911

Filed Aug. 19, 1949

2 Sheets—Sheet 2



INVENTOR.
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Patented July 28, 1953

2,646,911

UNITED STATES PATENT OFFICE

2,646,911

CONTAINER CARRIER

Lawrence O. Holmberg, Winnetka, Ill.

Application August 19, 1949, Serial No. 111,143

13 Claims. (Cl. 224—45)

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This invention relates to a new and improved container carrier and more particularly to a carrier for cans or other containers having projecting rims, edges, joints or flanges such as end seams or the like, or countersunk or recessed ends.

An object of the invention is to provide a carrier which will support a plurality of grouped containers in such a manner that labels or advertising matter on the exterior of the containers may be clearly displayed.

Another object is to provide a carrier that will support a plurality of grouped containers in such a manner that a single strip of advertising material may be placed about the group.

A further object is to provide a carrier which occupies a minimum of space and which may be placed in supporting engagement with a plurality of containers and the standard number of containers placed in the usual shipping case, making it possible to install the carriers along with supplemental advertising material at the point of initial packing.

Another object is to provide a carrier which may be quickly attached to or removed from a plurality of containers and which is simple in construction and economical to manufacture.

It is a further object to provide a carrier which engages only the top edge portions of said containers.

It is another object to provide a carrier with a retractable handle.

It is a further object to provide a carrier on which containers may be installed by automatic machinery.

With these and various other objects in view, the invention may consist of certain novel features of construction and operation as will be more fully described and particularly pointed out in the specification, drawings and claims appended hereto.

In the drawings, which illustrate an embodiment of the invention and wherein like reference characters are used to designate like parts—

Fig. 1 is a perspective view of a group of containers with a carrier in operative position and a band shown in broken lines encircling the group;

Fig. 2 is an enlarged fragmentary end elevation of a carrier supporting containers;

Fig. 3 is an enlarged fragmentary cross-section taken on the line 3—3 of Fig. 1;

Fig. 4 is an enlarged side elevation of a carrier;

Fig. 5 is a view taken on the line 5—5 of Fig. 4;

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Fig. 6 is a fragmentary end elevation showing the relative position of containers and carrier when they are packed in a two-layer packing case; and

Fig. 7 is an enlarged fragmentary cross-section taken on the same line as Fig. 3 and showing containers in their initial position when being installed on a carrier.

Referring to the drawings more in detail, Fig. 1 shows a carrier with six containers 12 to 17 secured to it. The containers illustrated have projecting rims and their ends 18 are countersunk and have annular rims or flanges that have vertically projecting edges 19 and laterally projecting portions 20. The body portion 21 of the carrier may be produced from a sheet metal blank or other material and is substantially U-shaped in cross-section. Oppositely disposed slots 22 are formed in the body 21 at spaced intervals. These slots are the same and, therefore, only one will be described.

In forming these slots, a relatively narrow elongated portion of material is removed from the side of the body 21. The width of the slot is substantially less than the height of the flange or bead 20. Round portions are removed from the ends of the slots to form the curved portions 23, as shown in Fig. 4. These curved portions extend upward and outwardly from the bottom edge of slot 22. The diameter of the curved portion is approximately the same as the height of the rim or bead 20. The portion of the body member immediately below the slot 22 and between the rounded end portions is curved to conform to the side wall of the container, as shown in Fig. 5. In forming this portion, the material is moved outwardly beyond the plane of the side of the body 21 and then curved inwardly, as shown at 24 in Fig. 5. The material at the ends of the curved portion projects beyond the plane of the body member, as shown at 25.

The material above slot 22 is bent outwardly along a line 26 in the plane of the tops of curved portions 23 to form an overhanging lip 27, the outer margin of which is bent downwardly at 28. This lip is curved to conform to the contour of the inner surface of rim 20. As shown in Fig. 4, the planes of the upper and lower margins of the slot are spaced less than that of the height of rim 20 and are also less than the thickness of the rim. The rim of the container, therefore, cannot be inserted in the slot when both the container and body of the carrier are in vertical positions, nor can it be inserted when the container is at right angles to the carrier. It is

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necessary that the rim be inserted when the container is at an intermediate angle, and after the rim has been inserted the container is placed in a vertical position. In this position, pressure downward or sideways will not dislodge the rim from the slot.

As shown in Fig. 7, in securing a container to the carrier, the edge 19 of the top flange of the container must be disposed at an angle to body member 21 and slot 22 in order for it to be able to pass through the slot. The top of flange 19 is moved upwardly and inwardly until it engages the top of rounded portions 23, at which point the under margin of rim 20 has passed over the lower curved margin of the slot. The container may then be moved to a vertical position and the upper lip 27 will engage the inside of flange 20, holding it inwardly so that the lower outer margin which is supported by the lower curved margin of the slot will not become dislodged.

Fig. 7 shows containers 12 and 13 tilted inwardly with their top rims 20 inserted in oppositely disposed slots at the same time. Automatic machinery may be used for installing the containers on the carrier and any number of containers may be tilted and their top rims inserted in slots at the same time. The containers may then be moved to the upright position shown in Fig. 3 which locks the rims in the slots. The contour of the carrier adjacent the slots may be such that when the containers are moved to an upright position the material of the carrier is displaced at these points, causing the containers to be more securely held by the carrier; that is, portions 27 may be moved outwardly by the inside of rims 20 and the portions 24 moved inwardly by the sides of the containers below the rims. The containers may be tilted, seated and locked on the carriers on a conveyor line and, if desired, the carrier may be in a continuous strip which is cut with the desired number of containers in each unit.

Various handles may be used and, in the one illustrated, the top of the body member 21 is provided with a pair of elongated openings 30 into which the ends of a handle or bale 32 are inserted. The handle may be made of drawn wire and shaped before it is installed. The ends 34 are bent horizontally and extend under the top of the body portion 21. The elongated openings 32 enable the handle to be sprung inwardly sufficiently for the ends 34 to be inserted and, when the handle returns to its normal shape, the side portions about the ends of the openings. As shown in Fig. 6, the handle may be retracted by merely pushing it inwardly. This is particularly desirable where the containers are packed in cases with the carriers installed on the containers. Where the containers are packed in more than one layer, a piece of corrugated board 36 may be placed between the layers and provided with an elongated slot into which that portion of the carrier which projects above the container may be inserted. Where groups of containers secured to carriers are stacked without the corrugated board between the layers, the portion of body member 21 projecting above the containers extends between the bottoms of the containers stacked on top of them and tends to stabilize the entire stack by preventing the containers above from slipping sideways off of the ones below.

The slots 22 in body member 21 are oppositely disposed so that an even number of containers will balance the carrier. As shown in Fig. 2,

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when the containers are lifted by the carrier the bottom margins of oppositely disposed containers engage each other. When the bottoms of the containers are supported, the containers assume a normal upright position, as shown in Fig. 6.

Several containers may be handled as a single unit on this carrier and a single strip of advertising material, shown at 29 in broken lines in Fig. 1, may be placed around the entire group calling attention to a special price for the group, or six different varieties of a product may be offered as a special attraction. This material may be applied after the containers are positioned in the carrier at the initial packing point. While such a strip of material is in no way essential to the successful operation of the carrier, it may serve to hold the containers more closely together under unusually rough handling.

The containers will not become dislodged from the carrier when it is swung by the handle sideways or endwise, nor will normal jostling or shaking cause them to become disengaged from the carrier.

While the carrier has been described and shown as having a U-shaped body portion, it is apparent that a single strip of material could be used with the container engaging slots in staggered relation and a handle suitably secured to the body.

The invention is not to be limited by the exact embodiment of the device shown, which is merely by way of illustration and not limitation, as various other forms of the device will, of course, be apparent to those skilled in the art without departing from the spirit of the invention or the scope of the claims.

I claim:

1. A carrier for containers having projecting top rims comprising a body having a U-shaped cross-section and having oppositely disposed slots in the sides thereof, the portions below said slots being curved to conform to the contour of the side walls of the containers and portions of said body along the bottom edges of said slots providing supports for said rims, the portions above said slots being curved to conform to the inner surfaces of said rims and positioned to engage said inner surfaces when said rims are supported along said lower edges.

2. A carrier for containers having projecting top rims comprising a body having a U-shaped cross-section and having oppositely disposed horizontal slots in the sides thereof, the portions of said sides below said slots being curved to conform to the contour of the side walls of the containers, the portions of said sides above said slots overhanging said first named portions and being curved to conform to the contour of the inner surfaces of said rims.

3. A carrier for containers having projecting top rims comprising a body having a U-shaped cross-section, oppositely disposed horizontal slots in the sides of said body, portions of said sides below said slots being positioned to engage the sides of said containers and having a surface conforming to the contour thereof, portions of said sides above said slots overhanging said first named portions for engaging the inner surfaces of said rims, spaced slots in the upper margin of said body and a retractable handle having its side portions slidably mounted in said slots.

4. A carrier for containers having projecting top rims comprising a body having slots in the sides thereof for receiving said rims, body portions along the bottom edges of said slots being

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positioned to supportingly engage the under surfaces of said rims, body portions along the top edges of said slots being positioned to engage the inner surfaces of said rims and maintain the under surfaces of said rims in engagement with the body portions along the lower edges of said slots and a handle for lifting said body portion with said containers secured thereto.

5. A carrier for containers having projecting top rims comprising a body having a U-shaped cross-section and having oppositely disposed slots in the sides thereof, said body having round cut-out portions at the ends of said slots, the diameter of said round portions being greater than the width of said slots, body portions along the bottom edges of said slots shaped to conform to the contour of the surfaces of the side walls of said containers, body portions above said slots and between said rounded portions overhanging said second named portions shaped to conform to the contour of the inside surfaces of said rims and the edges of said slots being spaced to permit the insertion of said rims when the latter are disposed at an acute angle to the sides of said body.

6. A carrier for containers having projecting top rims comprising a body having a U-shaped cross-section and having oppositely disposed slots in its sides for receiving portions of the rims of said containers, said body having openings in the upper margin thereof for receiving the ends of a handle member and means between the sides of said body for maintaining said ends in said openings.

7. A carrier for containers having projecting top rims comprising a body having a U-shaped cross-section and having oppositely disposed slots in its sides for receiving portions of the rims of said containers, the portions of said body along the lower edges of said slots being positioned to support the under surfaces of said rims and portions along the upper edges positioned to engage the inner surfaces of said rims whereby the lower margins of opposite containers abut each other when said carrier is supporting the containers.

8. A carrier for containers having projecting top rims comprising a body having a U-shaped cross-section and having a plurality of spaced slots in each side thereof, the distance between the centers of the slots corresponding to the diameter of the containers and the slots in each side being aligned with each other whereby the lower margins of opposite containers abut each other when said containers are supported by their top rims in said slots.

9. A carrier for containers having projecting top rims comprising a body having a U-shaped cross-section and having spaced slots in each side thereof, the slots in each side being aligned with each other, whereby when said containers are supported by the under surfaces of their top rims the lower margins of opposite containers will abut each other and said containers will be supported in a substantially upright position by said carrier.

10. A carrier for containers having projecting top rims comprising a body having a U-shaped cross-section, rim engaging means on each side of said body in alignment with each other whereby the lower margins of opposite containers abut each other when said containers are supported on said body by their top rims.

11. A carrier for sealed cans or like containers having a laterally projecting top rim thereon, said carrier comprising a body member having handle means associated therewith, a pair of oppositely

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disposed can-holding devices carried by said body member, each of which is adapted to engage one can, respectively of a pair of cans, at that portion of the top rim thereof which is disposed in close proximity to the other can, each can-holding device having outside can-engaging means engaging the underneath edge of the laterally projecting top rim of its associated can, and inside can-engaging means engaging the inside surface of said top rim at such location thereon as to oppose the engagement of said outside can-engaging means, said inside and outside can-engaging means being constructed to provide therebetween space for said rim sufficient to permit a can held thereby to swing downwardly by gravity to an extent to cause the cans of a pair of cans held thereby to swing toward each other until each contacts the other adjacent the bottom edge thereof and so that each can of said pair of cans counterbalances the other and arrests further gravitational movement thereof, said inner and outer can engaging means being sufficiently close together at the point of their closest approach to prevent the rim of the associated can from disengaging itself from said outer can engaging means when the cans are swung downwardly in mutually supporting position.

12. A carrier for sealed cans or like containers having a laterally projecting top rim thereon, said carrier comprising a body member having handle means associated therewith, a pair of oppositely disposed can-holding devices carried by said body member, each of which is adapted to engage one can, respectively of a pair of cans, at that portion of the top rim thereof which is disposed in close proximity to the other can, each can-holding device having outside can-engaging means engaging the underneath edge of the laterally projecting top rim of its associated can, and inside can engaging means engaging the inside surface of said top rim at such location thereon as to oppose the engagement of said outside can engaging means, said inside and outside can engaging means being constructed to provide therebetween space for said rim sufficient to permit a can held thereby to swing downwardly by gravity to an extent to cause the cans of a pair of cans held thereby to swing toward each other until each contacts the other adjacent the bottom edge thereof and so that each can of said pair of cans counterbalances the other and arrests further gravitational movement thereof, said inner and outer can engaging means being sufficiently close together at the point of their closest approach to prevent the rim of the associated can from disengaging itself from said outer can engaging means when the cans are swung downwardly in mutually supporting position, and sufficiently spaced to permit the outward passage of the rim of the associated can therebetween when the can is tipped upwardly in opposition to the action of gravity.

13. A carrier for sealed cans or like containers having a laterally projecting top rim thereon, said carrier comprising a body member including means adapted for manual grasping for carrying the body and a pair of independent can-holding devices each of which is adapted to engage the top rim of one can, respectively, of a pair of cans, each can-holding device having outside can-engaging means engaging the underneath edge of the laterally projecting top rim of its associated can, and inside can-engaging means engaging the inside surface of said top rim at such location thereon as to oppose the engagement of said out-

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side can-engaging means, said inside and outside can-engaging means being constructed to provide therebetween space for said rim sufficient to permit a can held thereby to swing downwardly by gravity to an extent to cause the cans of a pair of cans held thereby to swing toward each other until each contacts the other adjacent the bottom edge thereof and so that each can of said pair of cans counterbalances the other and arrests further gravitational movement thereof, said inner and outer can-engaging means being sufficiently close together at the point of their closest approach to prevent the rim of the associated can from disengaging itself from said outer can-engaging means when the cans are swung down-

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wardly in mutually supporting position, and sufficiently spaced to permit the outward passage of the rim of the associated can therebetween when the can is tipped upwardly in opposition to the action of gravity.

LAWRENCE O. HOLMBERG.

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Feb. 2, 1960

O. J. POUPITCH
CONTAINER CARRIER

2,923,406

Original Filed Oct. 30, 1950

Fig. 1.

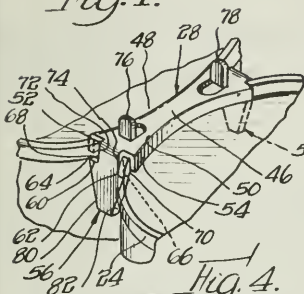


Fig. 4.

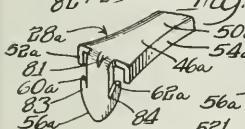


Fig. 6.

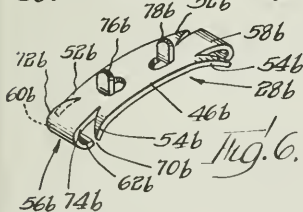


Fig. 9.

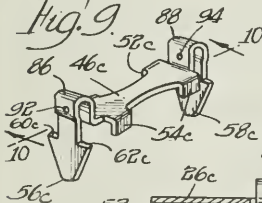


Fig. 11.

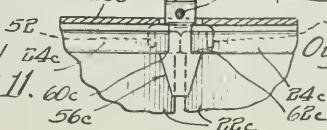


Fig. 2.

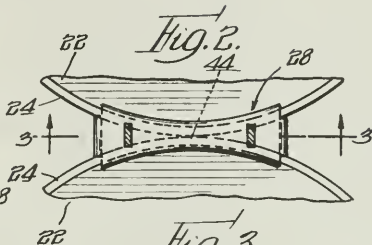


Fig. 3.

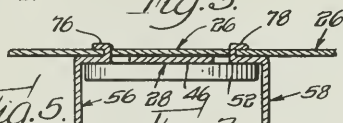


Fig. 5.



Fig. 7.

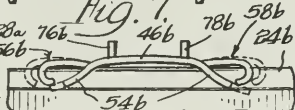


Fig. 8.

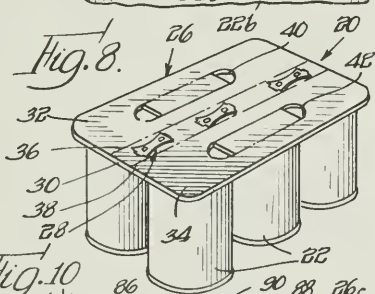
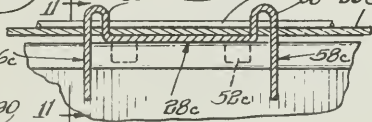


Fig. 10.



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United States Patent Office

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Patented Feb. 2, 1960

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2,923,406

CONTAINER CARRIER

Ogiless Jules Poopitch, Itasca, Ill., assignor, by mesne assignments, to Illinois Tool Works, Chicago, Ill., a corporation of Illinois

Original application October 30, 1950, Serial No. 192,921. Divided and this application September 19, 1956, Serial No. 610,772

4 Claims. (Cl. 206—65)

The present invention relates to a novel carrier for containers or the like, and more particularly to novel carriers adapted to be applied to end beads or rims of cans such as those commonly used for beverages, foodstuffs and the like for retaining the cans in a compact, rugged package. This application is a division of my co-pending application Serial No. 192,921, filed October 30, 1950, now abandoned.

An important object of the present invention is to provide a novel can or container carrier for retaining a plurality of cans in a rugged package adapted to be easily handled or carried, which carrier includes a novel clip structure adapted to be easily and economically produced from sheet stock, as for example, sheet metal, and adapted to be readily and securely applied to adjacent end rims or beads of a plurality of containers or cans disposed in side-by-side parallel and substantially abutting relationship.

A more specific object of the present invention is to provide a novel one-piece sheet material clip of the type mentioned above which is adapted to be resiliently snapped onto a plurality of rims of adjacent containers in a manner which provides a positive interlock between the clip and the containers so as to prevent subsequent removal of the containers until portions of the clip have been spread apart.

A further object of the present invention is to provide a novel carrier of the above described type wherein a plurality of the novel clips may be connected to a handle member formed from suitable sheet stock, such as paper, cardboard and the like, thereby enabling a single handle structure to support a plurality of groups of adjacently positioned cans or containers.

Other objects and advantages of the present invention will become apparent from the following description and the accompanying drawings wherein:

Fig. 1 is a fragmentary perspective view showing a clip incorporating the features of the present invention assembled with a pair of cans disposed in side-by-side substantially abutting and parallel relationship;

Fig. 2 is a fragmentary plan view of the structure shown in Fig. 1;

Fig. 3 is a fragmentary sectional view taken along line 3—3 in Fig. 2 and further showing the clip connected to a handle member;

Fig. 4 is a fragmentary perspective view showing a modified form of the present invention;

Fig. 5 is a fragmentary plan view of the clip shown in Fig. 4;

Fig. 6 is a perspective view showing another modified form of the present invention;

Fig. 7 discloses the manner in which the clip of Fig. 6 is applied to rims of adjacently disposed containers;

Fig. 8 is a perspective view on a reduced scale showing a package including a plurality of cans or containers disposed in side-by-side substantially abutting and parallel relationship and a carrier having a sheet material handle

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member and a plurality of clips connected to the handle member and to rims of the cans;

Fig. 9 is a perspective view showing a further modified form of the present invention;

Fig. 10 is a sectional view of the clip taken along line 10—10 in Fig. 9 and further shows the clip applied to a handle member and to a container; and

Fig. 11 is a fragmentary sectional view taken along line 11—11 in Fig. 10.

Referring now more specifically to the drawings wherein like parts are designated by the same numerals throughout the various figures, a package 20 incorporating the features of the present invention is shown in Figs. 1, 2, 3 and 8. In the embodiment shown, the package comprises six cans 22 disposed in side-by-side substantially abutting and parallel relationship, which cans may be of known construction and have annular beads or rims 24 at their ends. A handle structure 26 is connected to the upper end rims of the cans by a plurality of clip members 28 constructed in accordance with the present invention. The handle 26 is preferably formed from sheet material such as heavy paper, cardboard and the like and includes a central longitudinally extending body portion 30 and side flaps 32 and 34 integrally joined to the body portion along bend lines 36 and 38. The side flaps are provided with finger openings 40 and 42. The handle member is initially formed in a flat condition as shown in Fig. 8 so that a plurality of the packages may be stacked upon each other to facilitate storing or shipping, and when the handle structure is to be used for carrying the package it is merely necessary to fold the flaps 32 and 34 into upstanding positions so that the finger slots 42 and 44 are aligned.

The clip 28 is shown in detail in Figs. 1, 2 and 3 and it will be appreciated that this clip is of one-piece construction and is formed from sheet material such as resilient sheet metal. The clip adapted to be applied to a pair of the cans 22 disposed in parallel relationship and substantially abutting each other at the area indicated by the numeral 44. The clip includes a substantially flat horizontal body portion 46 which traverses the spaces defined between the cans laterally of the area of substantial abutment. In this embodiment, the body portion 46 is provided with arcuate side margins 48 and 50 which are to be located adjacent the rims of the cans 22 and which have a curvature complementary to the curvature of the annular rims. Depending from the arcuate margins 48 and 50 are arcuate flanges 52 and 54 respectively which are adapted to extend along and engage with broad arcuate surface contact the inner surfaces of the can rims. The flanges 52 and 54 have a height substantially equal to the height of the can rims so that their free margins will substantially abut the tops of the cans.

Locking elements or means 56 and 58 depend from the body portion 46 so that they are adapted to enter the spaces between the adjacent cans and cooperate with the locking means or flanges 52 and 54 for securely and positively interconnecting the clip with the cans. The elements 56 and 58 are identical but oppositely disposed and each is arranged so that it is in a plane substantially perpendicular to the plane of the body portion 46 and also traversing the flanges 52 and 54 so that the elements 56 and 58 traverse the spaces between the cans. Each of the elements 56 and 58 is provided with oppositely disposed and upwardly facing surfaces or shoulders 60 and 62 adapted to extend beneath adjacent can rims. These shoulders or surfaces have sufficient extent so that they will substantially completely traverse the downwardly facing outer surfaces of the can rims and so that their outermost free margins 64 and 66 will substantially abut side surfaces of the cans when the clip is fully applied to the cans. It is to be noted that the outer ends or

margins 64 and 66 of the shoulders cooperate with the free margins of the depending locking means or flanges 52 and 54 respectively to provide narrow throats 68 and 70 through which the rims of the cans cannot pass until the cooperating margins of the shoulders and flanges have been spread apart. The locking means or elements 56 and 58 also provide oppositely facing upstanding abutment surfaces 72 and 74 adapted to engage the outer upstanding peripheral surfaces of the can rims and to cooperate with the upstanding surfaces of the flanges 52 and 54 for restraining tilting of the cans with respect to each other in a plane disposed transversely to the longitudinal axis of the clip. It is to be noted that twisting of the cans relative to each other in planes generally parallel to the longitudinal axis of the clip is effectively restrained by engagement of the locking shoulders and cooperable portions of the flanges 52 and 54 with arcuately substantially spaced areas of the can rims.

In order to enable the clip 28 to be connected to the handle member 26, a pair of tabs or prongs 76 and 78 is struck upwardly from the clip body portion. As shown best in Fig. 3, these prongs are adapted to extend upwardly through slots in the handle member 26 and to be folded over for securely connecting the clip to the handle member.

When applying a clip 28 to a pair of cans, the cans are first disposed in substantially abutting parallel relationship. Then the clip is arranged over and in alignment with the cans so that upon relative movement of the cans and the clip together, the flanges 52 and 54 will be positioned over and in engagement with the inner rim surfaces. However, before the flanges engage the cans, the depending ends of the elements 56 and 58 will engage the rims of the cans. The depending end portions of these elements below the shoulder surfaces are provided with converging opposite edges or cam surfaces 80 and 82 which are disposed with respect to each other so that the free ends of the elements 56 and 58 may easily enter the spaces between the substantially abutting cans. Upon further relative downward movement of the clip with respect to the cans, the cam surfaces 80 and 82 engage the rims and cause the elements 56 and 58 to be flexed outwardly sufficiently to enable the shoulders 60 and 62 to be snapped into position beneath the rims. It is to be understood that the inherent resiliency of the clip stock material or metal will cause the elements 56 and 58 to spring back to their original positions relative to the clip body after these elements have been resiliently flexed outwardly in the manner just described during application of the clip to the cans. After the clip and the cans have been fully assembled, the cans are positively retained in interlocked association with the clip and cannot be removed until either the flanges 52 and 54 or the elements 56 and 58 have been manually shifted outwardly in order to open the restricted throats 68 and 70 sufficiently to permit the rims to pass therethrough. It will also be appreciated that the structure of the clip 28 is such that a plurality of the clips may be connected to a handle member as shown in Fig. 8 and then simultaneously applied to a plurality of pairs of cans.

Figs. 4 and 5 show a modified form of the present invention which is similar to the above described structure as indicated by the application of identical reference numerals with the suffix "a" added to corresponding elements. In this embodiment, the locking element 56a is formed so that it is provided with an arcuate or channel-shaped transverse cross section whereby its strength and rigidity is materially increased. An indentation 81 at the juncture of the element 56a and the body portion 46a serves to increase the resistance of the element 56a to outward deflection. It is to be noted that the element 56a is slotted to provide a pair of oppositely disposed resilient fingers 83 and 84 which, in turn, provide the rim engaging shoulders 60a and 62a. As the clip 28a is moved into association with the rims of cans during

an assembly operation, the fingers 83 and 84 are flexed inwardly toward each other to permit the element 56a to be inserted between the cans. Then upon completion of the assembly operation, the fingers 82 and 84 spring outwardly to position the shoulders beneath the rims of the cans. It is to be understood that the clip 28a, which is only partially shown, is to be provided with a second locking element corresponding to the element 58 described above and formed in the same manner as the element 56a.

Figs. 6 and 7 show a clip structure 28b incorporating another modification of the present invention, which clip structure is similar to the devices described above as indicated by the application of identical reference numerals with the suffix "b" added to corresponding elements. In this embodiment, the body portion 46b is normally bowed, and locking means or elements 56b and 58b which are generally hook shaped extend laterally from opposite ends of the bowed body portion. The hook-like elements 56b and 58b have free opposite corner portions which provide the shoulders 60b and 62b and opposite edges 72b and 74b engageable with the peripheral surfaces of the can rims. Cooperatively disposed with respect to the hook shaped elements are fingers or tabs 52b and 54b having inner edges flaring from the edges 72b and 74b and curved so that they are complementary to the curved inner surfaces of the can rims. When the clip 28b is first applied to a pair of adjacent cans, the body portion 46b is flattened by pressure applied by the operator's finger or in any other suitable manner. This causes the hook shaped elements 56b and 58b to be shifted to the dotted line positions shown in Fig. 7, in which positions the hook shaped portions may be inserted between the cans. When the pressure is released the body portion springs back toward its original condition and the corners of the hook-like elements are shifted into engagement with the underside of the can rims and cooperate with the fingers 52b and 54b to establish a firm interlock between the clip and the containers.

In Figs. 9, 10 and 11 another embodiment of the present invention is shown, which embodiment is most similar to the clip 28 described above as indicated by the application of identical reference numerals with the suffix "c" added to corresponding elements. In this embodiment, increased flexibility is provided for the elements 56c and 58c by the use of upwardly projecting inverted U-shaped sections 86 and 88 for integrally connecting the elements 56c and 58c to the body portion 46c. When connecting this clip to a handle member 26c, the U-shaped sections 86 and 88 are inserted through openings in the handle member, and a locking wire 90 is inserted through apertures 92 and 94 in the U-shaped sections. The wire overlies the handle member and thus connects the clip to the handle member. It is to be understood that the wire may be extended for securing a plurality of the clips 28c to the handle member.

While the preferred embodiments of the present invention have been shown and described herein, it is obvious that many structural details may be changed without departing from the spirit and scope of the appended claims.

The invention is claimed as follows:

1. A can package comprising a one-piece resilient sheet material clip, and a plurality of cylindrical cans of the like having annular end rims disposed in side-by-side substantially abutting and parallel relationship securely retained by said clip, said rims having a predetermined thickness, said clip comprising generally planar horizontal body means substantially traversing an area of substantial abutment of the cans and spaces between the cans at opposite sides of said area, a plurality of first locking means integral with and depending from opposite end portions of said body means disposed in said spaces and presenting surfaces engaging beneath the rims of the cans, and a plurality of second locking means integral with

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said body means having portions located toward opposite ends of and depending from said planar body means and engaging inner surfaces of the can rims and respectively cooperating with said first locking means, each cooperable pair of said first and second locking means having margins defining a throat which normally has a dimension transversely of a rim less than said rim thickness for preventing a rim of a can from passing therethrough, one of said means comprising resiliently flexible spring means for relatively spreading said margins and opening said throats during assembly of the can package for receiving rims of cans disposed in substantially abutting parallel relationship sufficiently to enable said first locking means to be snapped beneath the can rims and for subsequently relatively shifting said margins together for closing said throats and locking the cans and the clip in assembled relationship so that the cans cannot be thereafter removed from the clip until said margins have again been relatively shifted and spread apart.

2. A can package, as defined in claim 1, wherein said one means comprising said spring means is one of each of said cooperable pairs of locking means and is provided with rim engageable cam means for effecting relative movement between cooperable first and second locking means for permitting entry of a rim between said

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first and second locking means as an incident to the application of the clip to adjacent substantially abutting cans.

3. A can package, as defined in claim 2, wherein said cam means are integral with said first locking means, said first locking means being disposed to be shifted by said cam means laterally outwardly from said area of substantial abutment of the cans.

4. A can package, as defined in claim 1, wherein said body means is said spring means and is initially bowed and is resiliently deformable for shifting margins of cooperable first and second locking means relative to each other for opening and closing said throats.

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